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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,167	12/15/2003	Mukunda Krishnappa	ALTR:024	4413

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EXAMINER	
CHANG, DANIEL D	

ART UNIT	PAPER NUMBER
2819	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,167	KRISHNAPPA ET AL.	
	Examiner	Art Unit	
	Daniel D. Chang	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/27/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Acknowledgement

Receipt is acknowledged of the Amendment filed October 3, 2005.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13, 19-25, and 31-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawman (US 6,028,445).

Regarding claim 1, Lawman discloses, at lease in Fig. 9, a programmable logic device (PLD)(FPGA 910), the programmable logic device (PLD) comprising configuration circuitry (920, 925, 935, 940), the configuration circuitry adapted to receive serial configuration data (col. 2, lines 30+; col. 6, lines 5+), the configuration circuitry further adapted to program a function of the programmable logic device (PLD) without using an input buffer to store the configuration data (see 920 in Fig. 9 or 120 in Fig. 1).

Regarding claim 2, Lawman discloses, at lease in Fig. 9, that the configuration circuitry receives the serial configuration data from a configuration device external (930) to the programmable logic device (PLD).

Regarding claim 3, Lawman discloses, at lease in Fig. 9, that the function of the programmable logic device (PLD) is programmed without stalling the configuration device (col. 8, lines 12+).

Regarding claims 4 and 5, Lawman discloses, at lease in Fig. 9, that the function of the programmable logic device (PLD) is programmed in an active (if FPGA is coupled to SPROM or EPROM) or passive (if FPGA is coupled to microprocessor; see col. 2, lines 29+) configuration mode.

Regarding claim 6, Lawman discloses, at lease in Fig. 9, that the configuration circuitry is further adapted to receive compressed serial configuration data (col. 8, lines 21+).

Regarding claim 7, Lawman discloses, at lease in Fig. 9, that the configuration circuitry comprises a decompression circuitry (940), the decompression circuitry adapted to decompress the compressed serial configuration data into decompressed configuration data (col. 8, lines 28+).

Regarding claim 8, Lawman discloses, at lease in Fig. 9, that the configuration circuitry further comprises a data format converter circuit (inherent for an FPGA to receive serial configuration data), the data format converter circuit adapted to convert the decompressed configuration data (from 940) into parallel configuration data (inherent in order to store that configuration data into a high speed memory).

Regarding claims 35 and 36, Lawman discloses, at lease in Fig. 9, that the programming the function of the programmable logic device comprises programming a programmable logic circuit or programmable interconnect (col. 1, lines 44+).

Claims 9-13, 18-25, 31-34, 37-50 are essentially the same in scope as apparatus claims 1-8 and 35-36, and are rejected similarly.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14-18 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawman (US 6,028,445) in view of Stanton et al. (US 6,748, 456).

The teachings of Lawman have been discussed above.

Lawman does not specifically disclose a decompression state machine, registers, a multiplexer, or a FLASH memory.

Stanton et al. discloses a decompression state machine (312), registers (at least 318), a multiplexer (304 or 344), or a FLASH memory (112) for the purpose of configuring PLD.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have provided the PLD of Lawman with the configuration controller as taught by Stanton in order to provide flexible configuration capabilities and use data compression.

Response to Arguments

Applicant's arguments filed October 3, 2005 have been fully considered but they are not persuasive.

Regarding claims 1, 21, and 41:

Regarding claim 1, applicant argues on page 12 of the Amendment filed October 3, 2005, that "Lauman fails to teach or suggest the configuration circuitry further adapted to program a function of the programmable logic device without using an input buffer to store the configuration data, as claim 1 recites. To the Applicant's reading and understanding, Lawman does not discuss buffers." It is true that Lawman does not discuss buffers. Therefore, it is also true that Lawman discloses "the configuration circuitry further adapted to program a function of the programmable logic device (PLD) **without using an input buffer** to store the configuration data (see 920 in Fig. 9 or 120 in Fig. 1)" (Emphasis added). Applicant further argues that "[t]he Office Action fails to establish how dedicated configuration port 120 relates to the limitation at issue in claim 1." However, Lawman teaches at col. 8, lines 12+, that the configuration port (920 in Fig. 9) is used for configuring the user logic circuits of a portion of FPGA 910 and configuration device 930 configures decompression unit 940 with the ability to program the configuration memories of the other portion of FPGA 910 through internal configuration access port 935. Therefore, the configuration circuitry (920, 925, 935, 940) is adapted to program a function of the PLD or FPGA to store the configuration data (via 920). Response to argument for Claims 21 and 44 are similar as claim 1.

Regarding claims 9 and 33:

Regarding claim 9, applicant argues on page 12, that Lawman fails to teach or suggest the limitation, "wherein the function of the programmable logic device (PLD) is programmed without stalling the configuration device." However, since it is not clear and not specific about the technical features of not stalling the configuration device, it was broadly interpreted. Therefore it was interpreted that "at any non-stalling period of time of configuration, the configuration device 930 configures the user logic circuits of the PLD". Applicant further argues that Lawman does not teach "a data converter circuit" to convert the serial configuration data into parallel configuration data to program a function of the programmable logic device. However, Lawman teaches that the serial data is provided by configuration device to configure the user logic circuits of FPGA in order to improve the configuration speed (see col. 1, lines 30+; col. 6, lines 5+; col. 8, lines 12+). In order to store the configuration memory with configuration data at high speed, it is inherent that the memory is accessed in parallel. Therefore, it is inherent that there is an inherent serial to parallel converter in the FPGA in order to store the serial data to the memory (see the US Patent referred at col. 5, line 30+). Response to argument for Claim 33 is similar as claim 9.

Regarding claims 14-18 and 26-30:

In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgement on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. *In re McLaughlin*, 443 F.2d 1392; 170 USPQ 209 (CCPA 1971).

Conclusion

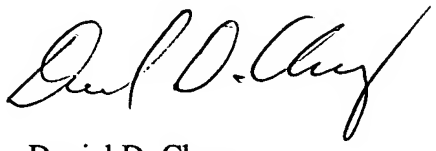
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Chang whose telephone number is (571) 272-1801. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on (571) 272-7492. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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dc

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